

Work Order ID 56728

March 5, 2010 9:59:52 AM



Page 1

Item ID: D3391-013

Accept



Setup Start



Revision ID:

Item Name: Mid Tube Assembly

Stop



Start Date: 05/03/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 17/03/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

*PC*

Date:

*10-3-05*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3391

Rev H

100

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Cut tube to finish length as per Dwg D3391

2-Identify as D3391-013

3-Drill pilot holes using DT8796 (including "B" holes) and drill only 1 fwd saddle hole on one side only as per Dwg D3391

4-Open saddles and GHW holes to Ø0.375" except for fwd saddle hole of detail "J"

5-Remove .030" from Fwd indexing Ridge as per Dwg D3391

6-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391

7-Deburr

8-Drill #30 pilot holes using wearplate Jig DT8217. Identify Ø0.250" holes with paint marker,

9-Open wearplate holes of D3391-013 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 and 2 holes in section Detail "J", do not open wearplate holes of section "J"

10-Open wearplate holes of D3391-013 assembly detail section H-H to Ø0.297" (20 holes) as per Dwg D3391

*BE 10/03/09*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
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DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

11-Open .375" holes to .438" \*\*\*do not open fwd saddle holes\*\*\*

BE 10/03/09

12- Locate electric step holes 41.5000" from fwd end and drill using DT 8393

13- Open electric step holes 0.391" per dwg D3391 (section L-L)

10/14/05

14- Open electric step holes 0.297" per dwg D3391 (section M-M)

15- Open electric step holes 0.250" per dwg D3391 (section LL-LL)

16- Locate D3391-021 in D3391-023 at 9.00" (see view z-z)

17- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previously drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previously tranfer drilled pilot holes in D3391-013/-011 to 0.438" dia. in D3391-011

18- Transfer drill 2 wearplate holes into D3391-011 using DT8217, locating from two previously drilled holes, drill remaining wearplate holes into D3391-011.

10/14/06

19- Locating from two fwd wearplate holes drill remaining 6 wearplate holes in D3391-011 using DT8937

20- Open 2 fwd wearplate holes in D3391-013 to .250" dia.

21- counterbore two aft wearplate holes in D3391-011 as per dwg

22- Open 12 wearplate holes in D3391-011 to 0.297" dia.

23- Deburr and blow out all chips from inside tube

W/O:		WORK ORDER CHANGES					
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Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

110

QC5- Inspect part completeness to step on W/O

0.00

S 10/4/6



QC

Memo

0.00



Quality Control

120

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

1 10/4/6

Hand Finishing

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00



10-4-6

Quality Control

W/O:		WORK ORDER CHANGES					
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 	Skidtubes	0.00							
Skidtubes	Memo	0.00				1	W10/4/6		
Skidtubes	Bond web in place as per Dwg D3391 & QSI 015. *****Ensure Web Alignment***** B # <u>M112429</u> Exp <u>12/8/30</u>								
150 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00				70			
Quality Control	Inspect each insert using DT8821								
160 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Weld crossbolt spacer as per dwg D3391 & QSI 004 2-grind weld flush								

A/R M113207

W/O:		WORK ORDER CHANGES					
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Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

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Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

170

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

180

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Re-alodine as per 09-043 ml 10-08-16①

190

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

\*\*\*Use paint screws to mask inserts.\*\*\*

START TIME: 8:00 AM

OVEN TEMPERATURE: 320° F

FINISH TIME: 8:30 PM

=&gt; M 10/08/17

1 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

*ml* *10* *08* *17* *(1)*

210

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

*=> ml 10/08/17*

*1* *0*

✓ 1- insert D3391-011 into D3391-13

✓ 2- insert T-pins into first and third fwd saddle holes

✓ 3- ON FIRST SIDE ONLY drill out 2nd and forth fwd saddles holes to 0.500" as per DSI 9364

✓ 4- remove T-pins and locate DT9415 from first and third crossbolt hole using T-pins and clekos

✓ 5- ON 2ND SIDE ONLY ream out 2nd and forth saddle hole to 0.499". Remove DT9415

✓ 6- deburr, re-alodine and blow out chips

✓ 7- press fit D3591-1 spacers using DT9416 starting from 0.500" side

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
230	HandFinishing	0.00							
HandFinish	Memo	0.00							
Hand Finishing	Install inserts								
240	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control	Inspect thread of each insert using DT8821								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

250



HandFinish

HandFinishing

0.00

Hand Finishing

Memo

0.00

Assemble as per dwg D3391

⇒ JU

10/08/12

XL

6

260



QC

QC5- Inspect part completeness to step on W/O

0.00

Quality Control

Memo

0.00

ml

10

08

18

①

270



Packaging

Identify as per dwg &amp; Stock Location:

w/o 56719 m

0.00

Packaging

Memo

0.00

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/08/19 *[Signature]*  
*mf*  
10-8-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Picklist Print

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Work Order ID: 56728



Parent Item: D3391-013



Parent Item Name: Mid Tube Assembly

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments:

IPP A 05.12.13 New Issue EC  
IPP B 06.02.09 Dwg rev.D EC  
IPP Rev:06-03-28 Update Manufacturing Instructions JLM  
IPP rev D 07.03.14 dwg Rev F EC

Start Qty: 1.00

Required Qty: 1.00

AN960C10L

Purchased No

Each

388.0000 4.0000



washer

\* NAS 1149C0332R

## Warehouse

## Loc Qty

## Loc Code

### Location

OFFSHORE

FG

100

M115000

✓ 10/08/17

103585

100

Main Warehouse

ST

288

112116

128

112612

160

D3672-1

Manufactured No

Each

1,618.000 10.0000



Phenolic Washer

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

1118

39275

19

42329

5

47628

94

52505

1000

✓ 10/08/17

Main Warehouse

ST117

500

51674

500

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Comments:

IPP A 05.12.13 New Issue EC  
 IPP B 06.02.09 Dwg rev.D EC  
 IPP Rev:06-03-28 Update Manufacturing Instructions JLM  
 IPP rev D 07.03.14 dwg Rev F EC

Start Qty: 1.00

Required Qty: 1.00

D2500-T-100



Skidtube Extrusion

Manufactured No

100

Each

131.0000 1.0000



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

If

87

50251

87

Main Warehouse

ST

44

37065

44

MS27039C4-08



SCREW

Purchased

No

100

Each

69.0000 4.0000



BE 10/03/09

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

69

17831

69

D3391-011



Fwd Tube Assembly

Manufactured

No

140

Each

0.0000 1.0000



10/03/17

B 56725 D 10/4/6

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IPP A ☐ 05.12.13 ☐ New Issue ☐ EC  
 IPP B ☐ 06.02.09 ☐ Dwg rev.D EC  
 IPP Rev:06-03-28 Update Manufacturing Instructions JLM ☐ ☐  
 IPP rev D 07.03.14 dwg Rev F EC

Start Qty: 1.00

Required Qty: 1.00

D3389-1

Manufactured No

210

Each

3.0000

1.0000



Web

**B56813 D 11/01/16**

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

2

56624

2

Main Warehouse

ST

1

48244

1

ALS4-1032-225

Purchased

No

230

Each

6,116.000

10.0000



Insert

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

6116

107441

16

110768

6100

**x12 M 10/08/17**

**A D 3681-1**

**10.04.12**

**B 56802 (x12) BE 10/04/12**

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Comments: IPP A 05.12.13 New Issue EC  
IPP B 06.02.09 Dwg rev.D EC  
IPP Rev:06-03-28 Update Manufacturing Instructions JLM  
IPP rev D 07.03.14 dwg Rev F EC

Start Qty: 1.00

Required Qty: 1.00

ALS4-428-165

Purchased No

230

Each

30.0000

4.0000



Inserts

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

30

6989

30

D3591-1

Manufactured No

230

Each

37.0000

2.0000



Bushing

\*??

x4 M 10/08/17

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

37

1357350

46105

29

47121

8

ALS4-1032-130

Purchased No

250

Each

1,142.000

26.0000



Insert

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1142

M 114723

110511

1142

x26 M 10/08/17

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IPP A ☐ 05.12.13 ☐ New Issue ☐ EC

Start Qty: 1.00

Required Qty: 1.00

IPP B ☐ 06.02.09 ☐ Dwg rev.D EC

IPP Rev:06-03-28 Update Manufacturing Instructions JLM ☐ ☐

IPP rev D 07.03.14 dwg Rev F EC

AN3C4A

Purchased

No

250

Each

1,649.000 10.0000



BOLT

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

1649

1114941

Y10 M 10/08/17

112314

13

112720

12

112724

3

112829

1

112991

2

113121

64

113226

344

113644

110

113749

100

114103

500

114108

500

# Picklist-Print

March 5, 2010 9:59:50 AM

Page 122

Work Order ID: 56728

Parent Item: D3391-013

Parent Item Name: Mid Tube Assembly

Comments: IPP A 05.12.13 New Issue EC  
IPP B 06.02.09 Dwg rev.D EC  
IPP Rev:06-03-28 Update Manufacturing Instructions JLM  
IPP rev D 07.03.14 dwg Rev F EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C10L

Purchased No

250

Each

388.0000

10.0000



washer

\* NAS 1149C0332 R

## Warehouse

## Loc Qty

## Loc Code

### Location

OFFSHORE

FG

100

19115000

x10 10/08/17

103585

100

Main Warehouse

ST

288

112116

128

112612

160

AN960C416L

Purchased No

250

Each

1,314.000

4.0000



WASHER

## Warehouse

## Loc Qty

## Loc Code

### Location

OFFSHORE

FG

44

104925

44

Main Warehouse

ST

1270

111916

2

112612

368

112794

500

112828

400

x4 10/08/17

March 5, 2010 9:59:50 AM

Shop Packet Print

Page 122



# Picklist Print

March 5, 2010 9:59:50 AM

Page 123

7

Work Order ID: 56728



Parent Item: D3391-013



Parent Item Name: Mid Tube Assembly

Start Date: 05/03/2010

Required Date: 17/03/2010

Comments:

IPP A 05.12.13 New Issue EC

Start Qty: 1.00

Required Qty: 1.00

IPP B 06.02.09 Dwg rev.D EC

IPP Rev:06-03-28 Update Manufacturing Instructions JLM

IPP rev D 07.03.14 dwg Rev F EC

D3401-041

Manufactured No

250

Each

25.0000

1.0000



Tow Cap Assembly

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

25

36216

1

41931

1

46029

13

50316

10

D3564-13

Manufactured No

250

Each

36.0000

1.0000



Wearshoe

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP17

24

51611

3

56285

21

Main Warehouse

ST

12

45409

2

46495

10

1359660

xl JU 10/08/17

# Picklist Print

March 5, 2010 9:59:50 AM

Page 124

Work Order ID: 56728

Parent Item: D3391-013

Parent Item Name: Mid Tube Assembly

Comments: IPP A 05.12.13 New Issue EC  
IPP B 06.02.09 Dwg rev.D EC  
IPP Rev:06-03-28 Update Manufacturing Instructions JLM  
IPP rev D 07.03.14 dwg Rev F EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

D3566-13



Gasket

Manufactured No 250 Each 75.0000 1.0000



Warehouse Loc Qty Loc Code  
Location

Main Warehouse

FP 73

53461 73

Main Warehouse

ST 2

45717 1

50265 1

B 59661

x1 M 10/08/17

D3672-1



Phenolic Washer

Manufactured No 250 Each 1,618.000 4.0000



Warehouse Loc Qty Loc Code  
Location

Main Warehouse

ST 1118

39275 19

42329 5

47628 94

52505 1000

Main Warehouse

ST117 500

51674 500

x4 M 10/08/17

# Picklist Print

March 5, 2010 9:59:50 AM

Page 125

Work Order ID: 56728

Parent Item: D3391-013

Parent Item Name: Mid Tube Assembly

Comments: IPP A 05.12.13 New Issue EC  
 IPP B 06.02.09 Dwg rev.D EC  
 IPP Rev:06-03-28 Update Manufacturing Instructions JLM  
 IPP rev D 07.03.14 dwg Rev F EC

Start Date: 05/03/2010

Required Date: 17/03/2010

Start Qty: 1.00

Required Qty: 1.00

D3672-3

Manufactured No

250

Each

524.0000 4.0000



Phenolic Washer



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST117

24

B57704

51596

24

Main Warehouse

ST77

500

55560

500

MS27039C1-09

Purchased

No

250

Each

30.0000 4.0000



SCREW



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

30

17831

30

x4 JH 10/08/17

40 JH 10/08/17

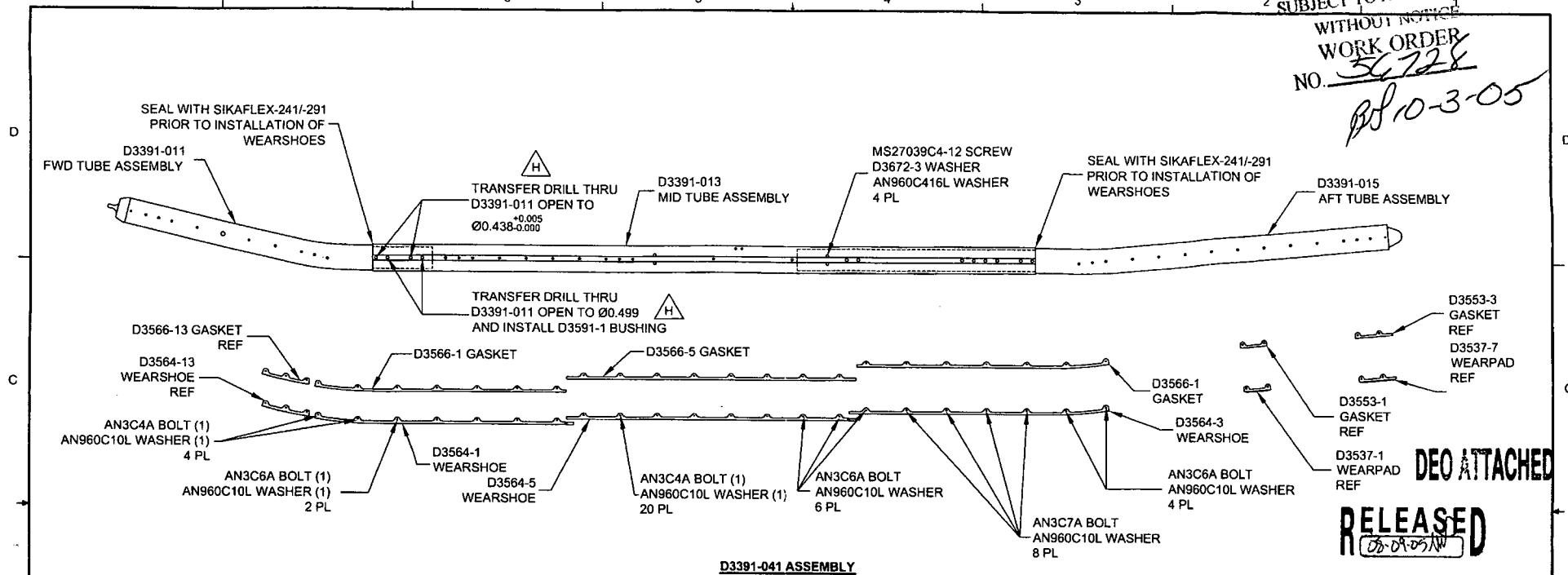
March 5, 2010 9:59:50 AM

Shop Packet Print

Page 125

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE

WORK ORDER  
NO. 56728  
10-3-05



DEO ATTACHED

RELEASED  
08-09-05 NW

D3391-041 ASSEMBLY

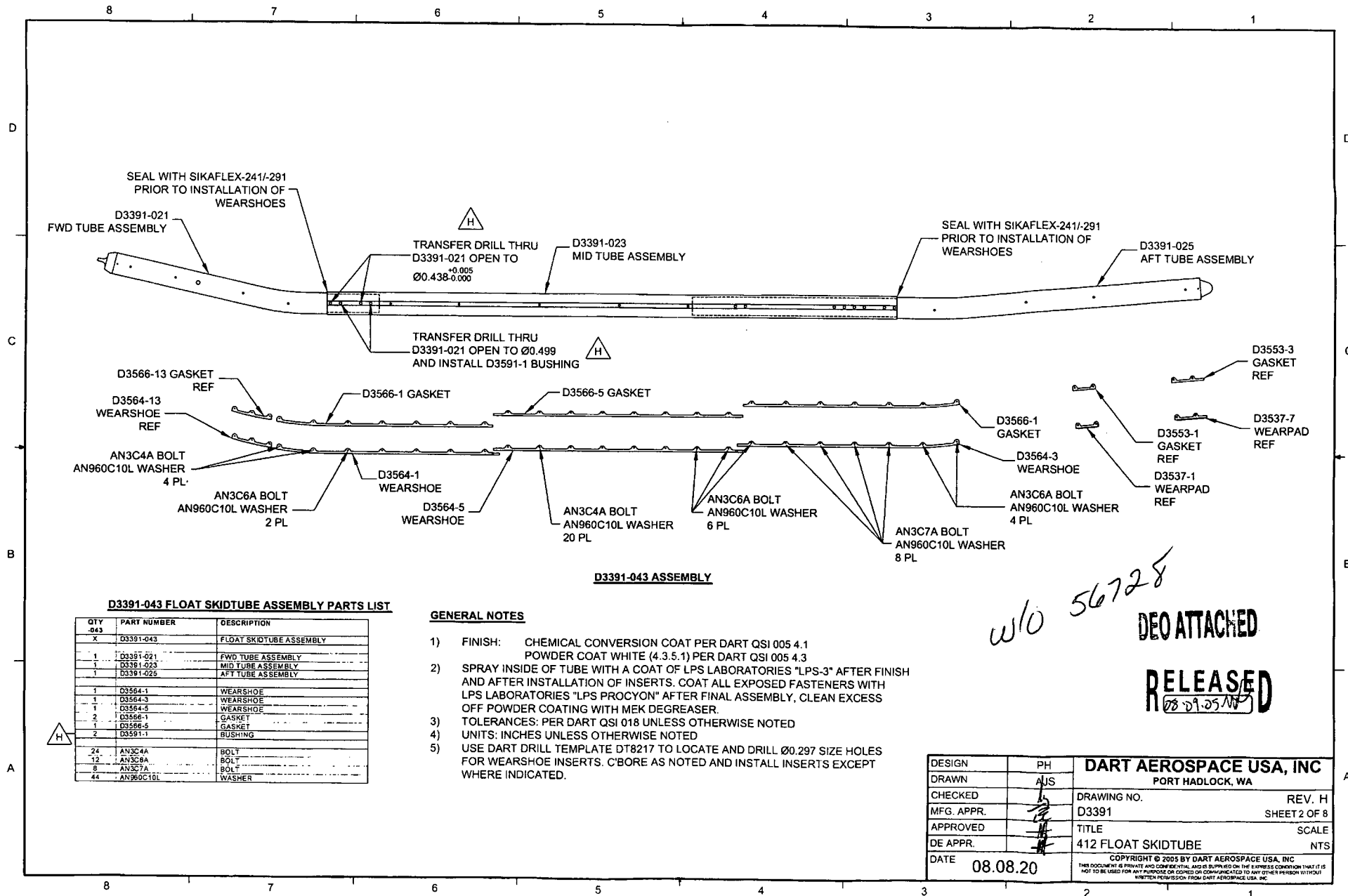
D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

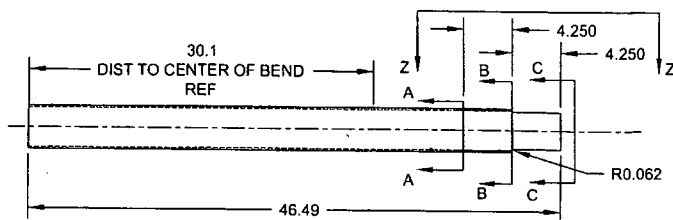
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH  
AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH  
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 0.297 SIZE HOLES  
FOR WEARSHOE INSERTS. C-BORE AS NOTED AND INSTALL INSERTS EXCEPT  
WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 0.438 DIM WAS 4 PL. ADDED 0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 0.438 DIM WAS 4 PL. ADDED 0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

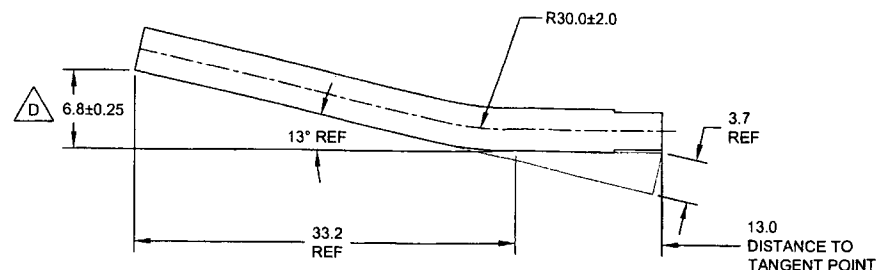


W/O 56728

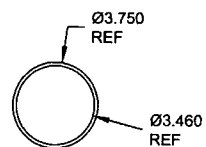
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08-09-05



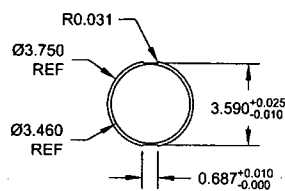
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



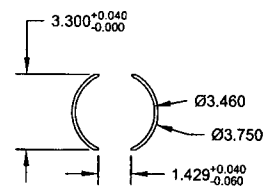
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



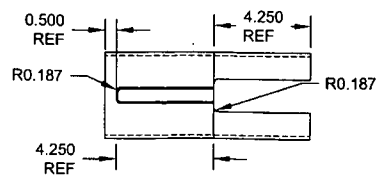
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**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X

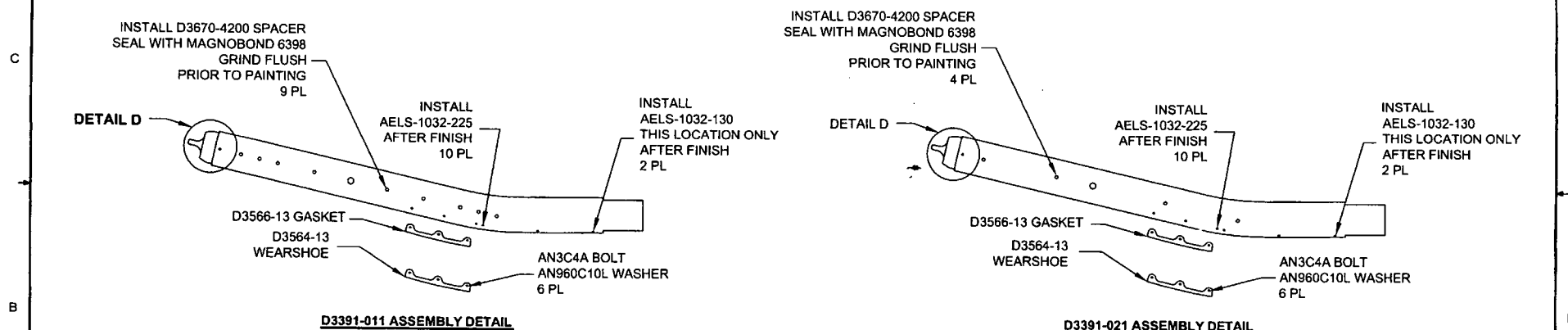
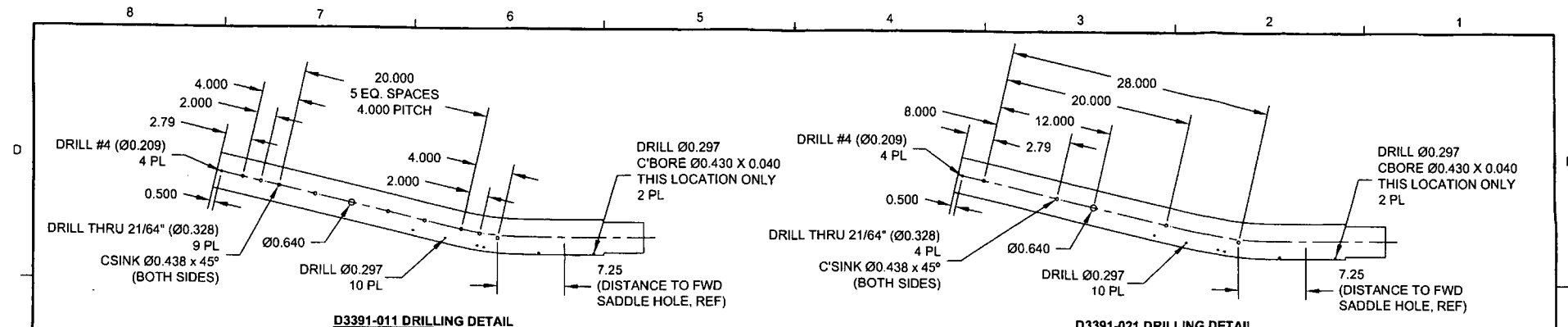


**VIEW Z-Z**  
SCALE 2X

W/036728

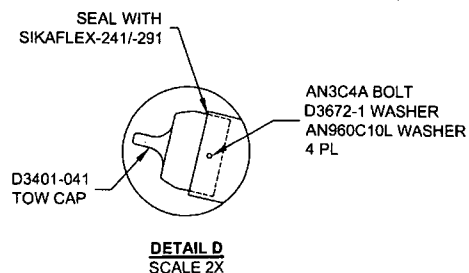
DEO ATTACHED  
**RELEASED**  
08/05/11

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AUS	PORT HADLOCK, WA	
CHECKED		DRAWING NO. D3391	REV. H
MFG. APPR.		TITLE	SHEET 3 OF 8
APPROVED		412 FLOAT SKIDTUBE	SCALE
DE APPR.			NTS
DATE	08.08.20	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUBJECT TO THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

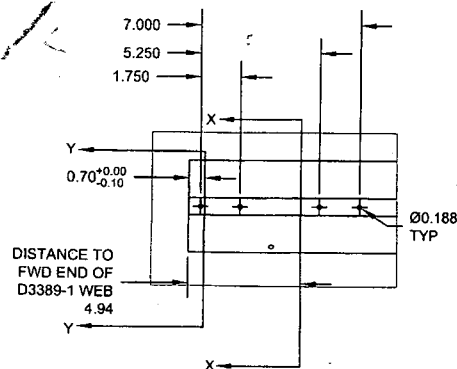


### D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

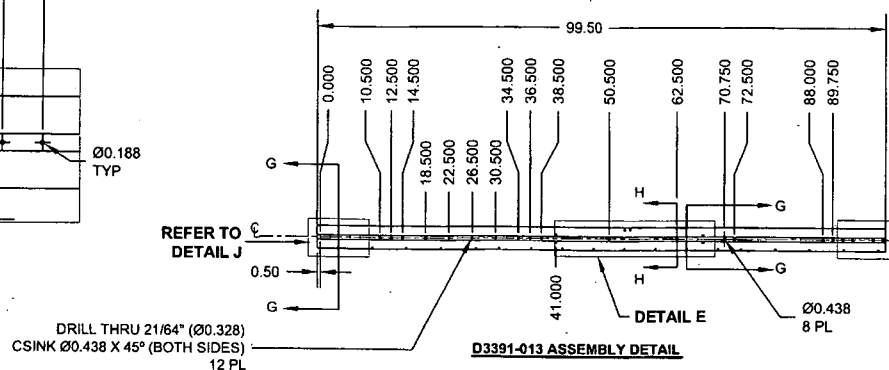
QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
2	2	AELS-1032-130	INSERT
10	10	AELS-1032-225	INSERT



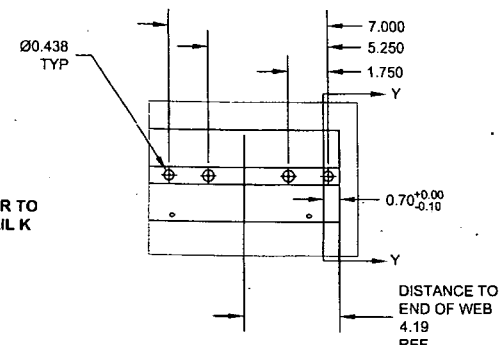
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. H
MFG. APPR.	<i>[Signature]</i>	D3391	SHEET 4 OF 8
APPROVED	AM <i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	412 FLOOD SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	



DETAIL J  
SCALE 4X



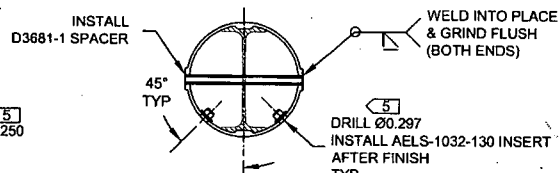
D3391-013 ASSEMBLY DETAIL



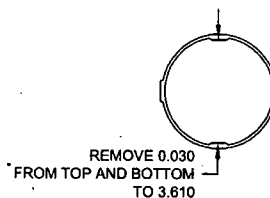
DETAIL K  
SCALE 4X



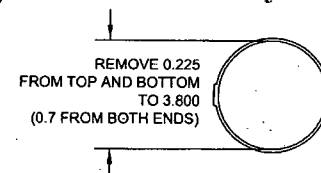
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



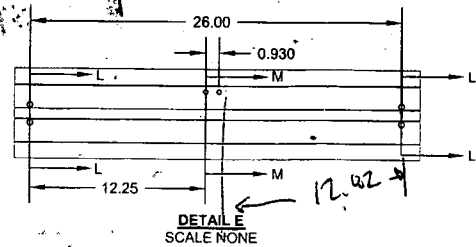
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SCALE 5X



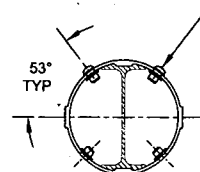
SECTION Y-Y  
SCALE 5X

D3391-013 MID TUBE ASSEMBLY PARTS LIST

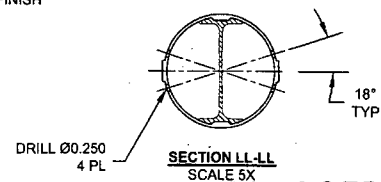
QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



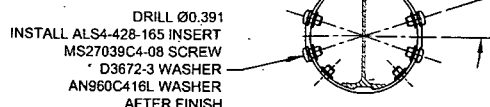
DETAIL E  
SCALE NONE



SECTION M-M  
SCALE 5X



SECTION LL-LL  
SCALE 5X



SECTION L-L  
SCALE 5X

DEO ATTACHED

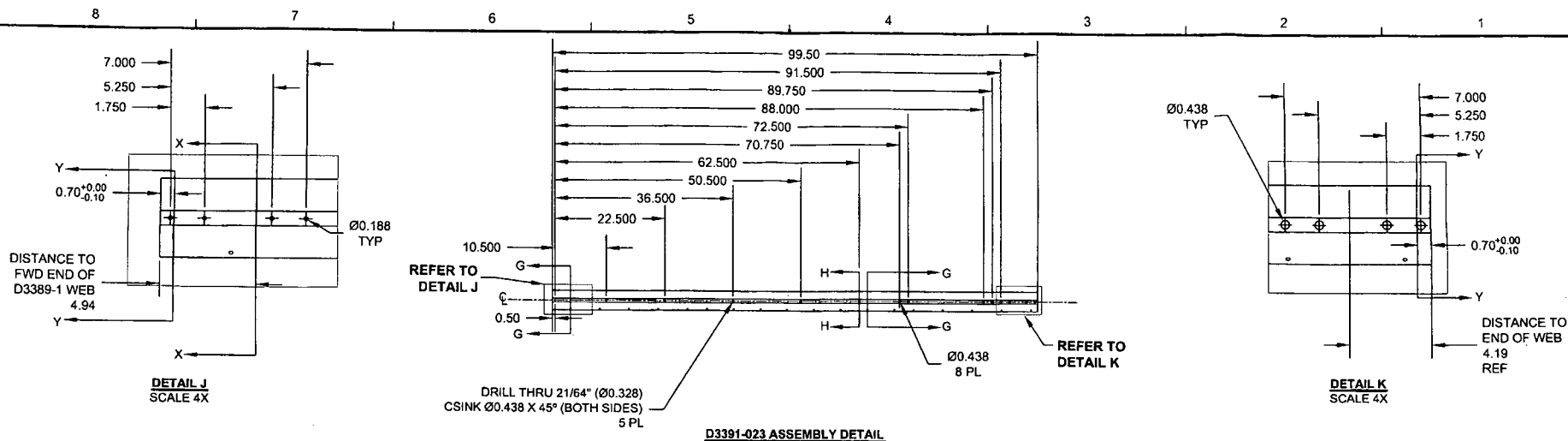
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D3391-013 MID TUBE ASSEMBLY

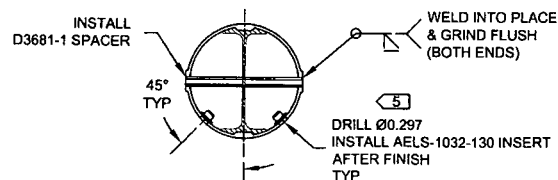
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
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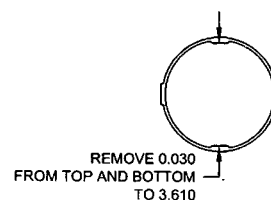




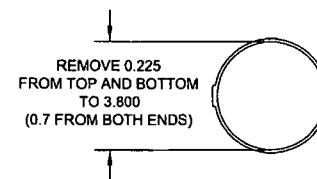
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

**D3391-023 MID TUBE ASSEMBLY**

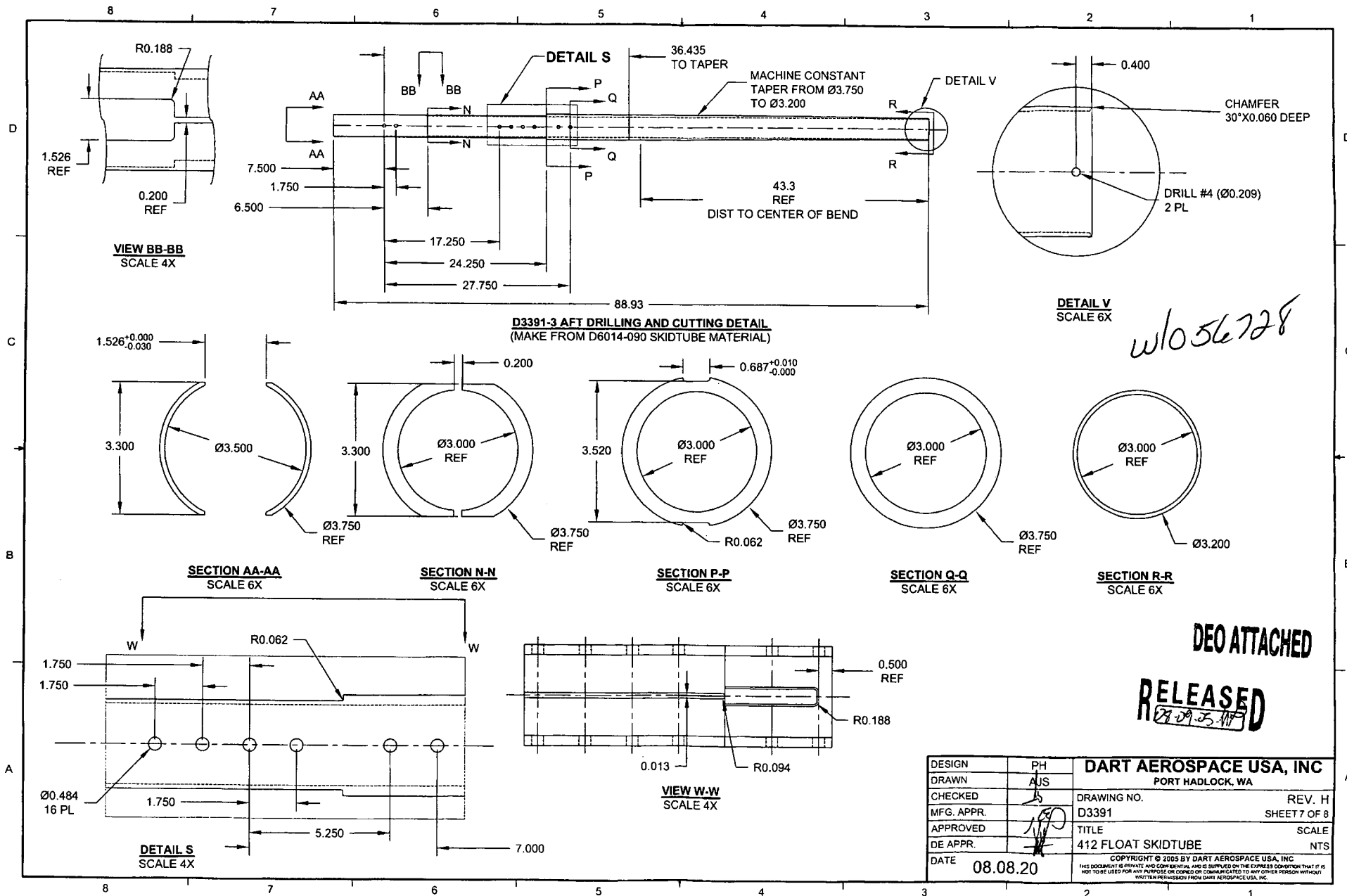
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

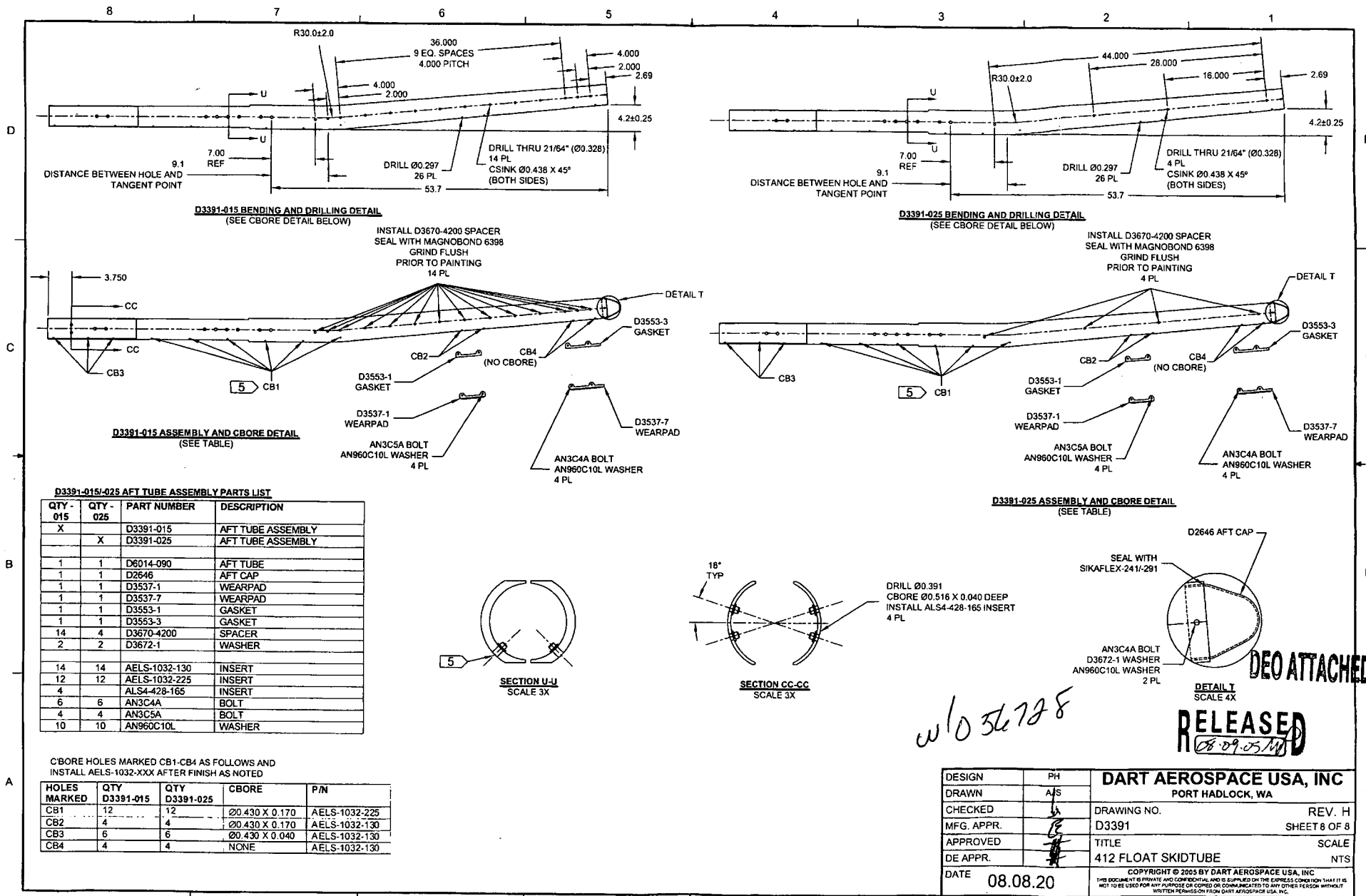
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	

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W/0 56728

DEO ATTACHED  
RELEASED  
08-05-10





DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>h</i>	MFG. APPR. <i>AS</i>	APPROVED <i>MP</i>		DE APPR. <i>h</i>		
DATE 09.09.23	DATE <i>04.04.24</i>	DATE <i>09/09/25</i>	DATE <i>09/29/30</i>		DATE <i>09/09/30</i>		

**PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

**CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~  
~~AND AFTER INSTALLATION OF INSERTS, COAT ALL EXPOSED FASTENERS WITH~~  
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
 OFF POWDER COATING WITH MEK DEGREASER.

**RELEASED**  
 2010-02-02

*MP*

*w/056728*

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NO. 224

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Bardley Elliott  
Job number: 53933  
Part number: D3391-023  
Description: Hot Mid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier [Signature] Date of Test Coupon 10-02-18

Welder [Signature] Date of Test Coupon 10-02-18

The above named individual is qualified in accordance with AWS D17.1.2001 to weld